

### IN THE SPECIFICATION

The amendment filed June 3, 2002 is objected to under 35 USC 132 because it introduces new matter into the disclosure. 35 USC 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the negative limitation in the amended claims that the titanium alloy layer must be nitride-free.

Applicant has removed the term "nitride free" from the claims as requested. However, Applicant respectfully submits that the plain meaning of the term "titanium alloy," as well as its common usage to one of ordinary skill in the art, does not include titanium nitride. Applicant respectfully submits that an "alloy" is defined as a combination of two or more *metallic* elements. Applicant respectfully submits that nitrogen is not a metal.

Withdrawal of the objections to the specification is respectfully requested.

### IN THE CLAIMS

Please substitute the claim set in the appendix entitled Clean Version of Pending Claims for the previously pending claim set. The substitute claim set is intended to reflect amendment of previously pending claims 51, 53, 55, 56, 60, 66, 73, 75, 78, and 81, and cancellation of claims 74, 79, and 80 without prejudice or disclaimer. The specific amendments to individual claims are detailed in the following marked up set of claims.

Please cancel ☒ claims 74, 79, and 80 and amend the following claims.

51. (Twice amended) A via, comprising:

[an] a single electrically conductive, [nitride-free] titanium alloy layer formed overlying walls and an exposed base layer of a contact hole; and  
a fill coupled to the titanium alloy layer, wherein the fill comprises a metal selected from the group consisting of tungsten and aluminum.

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53. (Twice amended) A via, comprising:

[an] a single electrically conductive, [nitride-free] titanium alloy layer formed overlying walls and an exposed base layer of a contact hole, wherein the titanium alloy layer comprises titanium and an element selected from the group consisting of zinc, cadmium, mercury, aluminum, gallium, indium, tin, silicon, germanium, lead, arsenic and antimony; and  
a fill coupled to the titanium alloy layer, wherein the fill comprises a metal selected from the group consisting of tungsten and aluminum.

55. (Twice amended) A via, comprising:

[an] a single electrically conductive, [nitride-free] titanium alloy layer formed overlying walls and an exposed base layer of a contact hole;  
a fill comprising a metal selected from the group consisting of tungsten and aluminum;  
and  
a titanium nitride layer interposed between the titanium alloy layer and the fill.

56. (Twice amended) A via, comprising:

[an] a single electrically conductive, [nitride-free] titanium alloy layer formed overlying walls and an exposed base layer of a contact hole, wherein the titanium alloy layer comprises titanium and an element selected from the group consisting of zinc, cadmium, mercury, aluminum, gallium, indium, tin, silicon, germanium, lead, arsenic and antimony; a fill comprising a metal selected from the group consisting of tungsten and aluminum;  
and  
a titanium nitride layer interposed between the titanium alloy layer and the fill.

60. (Twice amended) A via, comprising:

a first layer of [an] a single electrically conductive, [nitride-free] titanium alloy within a contact opening in an insulating layer, wherein the titanium alloy comprises titanium and an element

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selected from the group consisting of zinc, cadmium, mercury, aluminum, gallium, indium, tin, silicon, germanium, lead, arsenic and antimony;

a second layer of titanium silicide coupled to the first layer; and

a fill coupled to the titanium alloy layer, wherein the fill comprises a metal selected from the group consisting of tungsten and aluminum.

66. (Twice amended) A via, comprising:

a first layer of [an] a single electrically conductive, [nitride-free] titanium alloy within a high aspect ratio contact opening in an insulating layer, wherein the titanium alloy comprises titanium and an element selected from the group consisting of zinc, cadmium, mercury, aluminum, gallium, indium, tin, silicon, germanium, lead, arsenic and antimony;

a second layer of titanium silicide coupled to the first layer; and

a fill coupled to the titanium alloy layer, wherein the fill comprises a metal selected from the group consisting of tungsten and aluminum.

73. (Twice amended) A via, comprising:

a first layer of an electrically conductive, [nitride-free titanium alloy] titanium zinc alloy on a sidewall of a high aspect ratio contact opening in an insulating layer[, wherein the titanium alloy comprises titanium and an element selected from the group consisting of zinc, cadmium, mercury, aluminum, gallium, indium, tin, silicon, germanium, lead, arsenic and antimony];

a second layer of titanium silicide formed overlying an exposed semiconductor base layer of the contact hole;

a fill coupled to the titanium zinc alloy layer, wherein the fill comprises a metal selected from the group consisting of tungsten and aluminum.

75. (Amended) The via of claim 73, further including a titanium nitride layer interposed between the titanium zinc alloy layer and the fill.

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